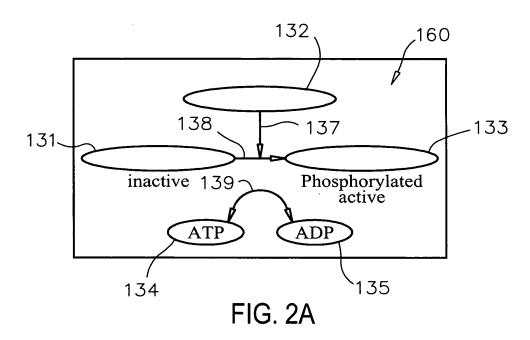
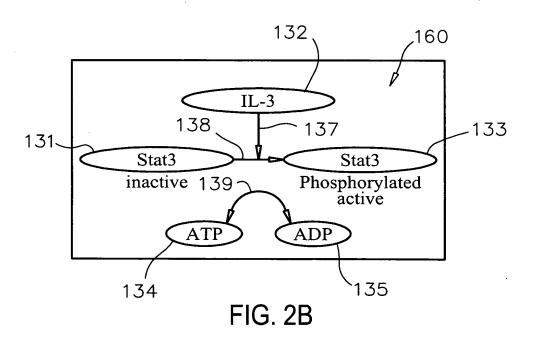


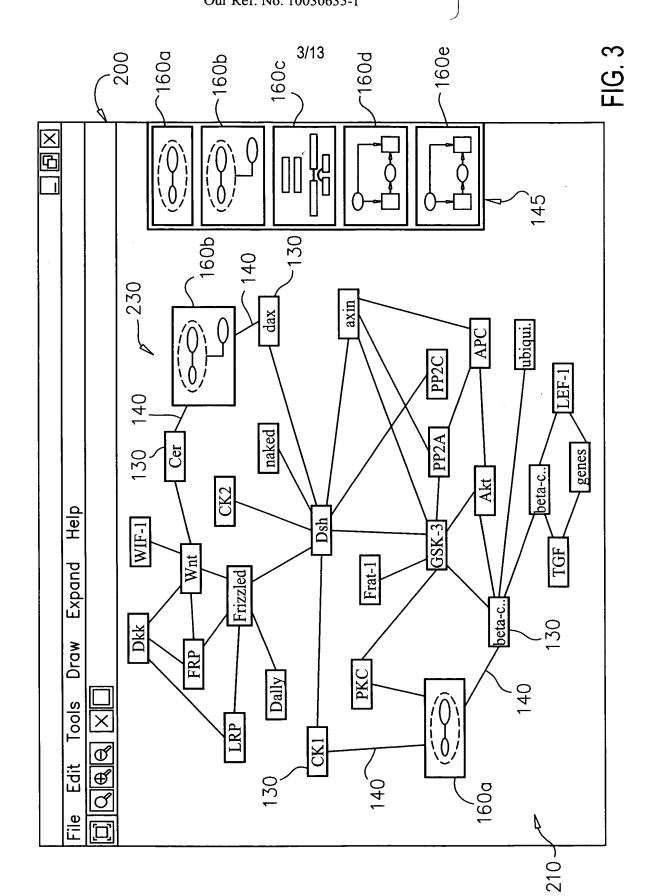
Serial No. <u>Unassigned</u>
Entitled "System, Tools and Methods for Constructing Interactive Biological Diagrams"
Our Ref. No. 10030635-1

2/13

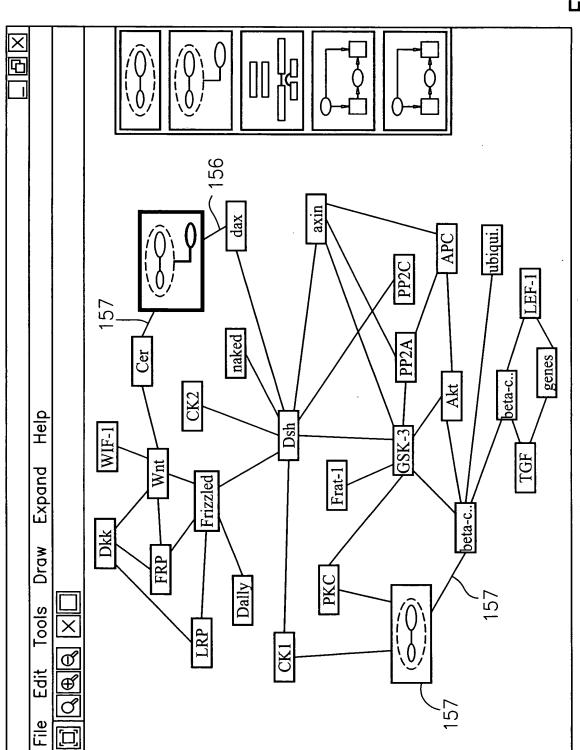




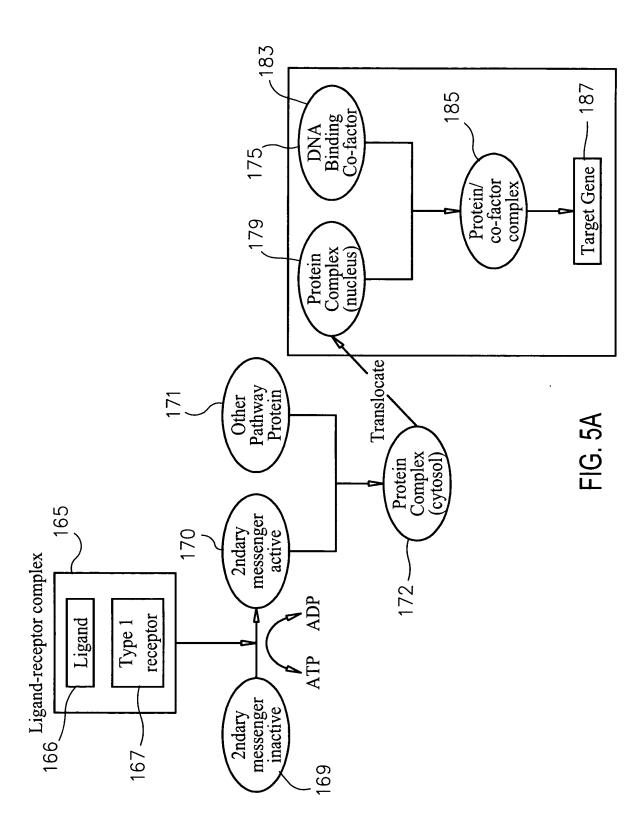
Serial No. <u>Unassigned</u>
Entitled "System, Tools and Methods for Constructing Interactive Biological Diagrams"
Our Ref. No. 10030635-1

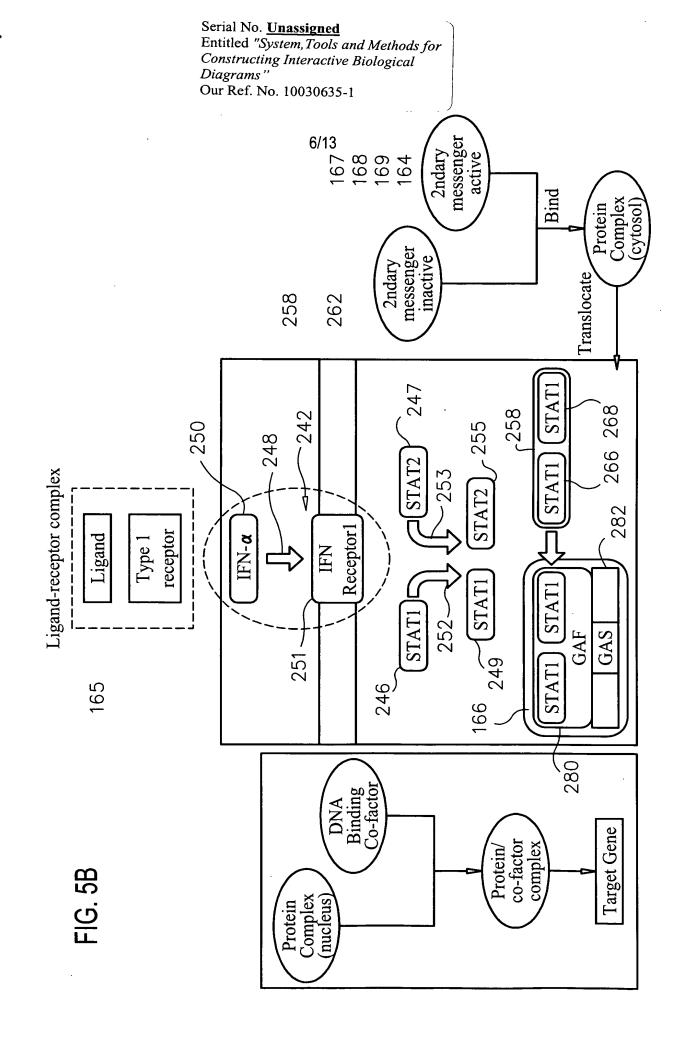


Our Ref. No. 10030635-1



Serial No. <u>Unassigned</u>
Entitled "System, Tools and Methods for Constructing Interactive Biological Diagrams"
Our Ref. No. 10030635-1





Serial No. <u>Unassigned</u>
Entitled "System, Tools and Methods for Constructing Interactive Biological Diagrams"
Our Ref. No. 10030635-1

7/13

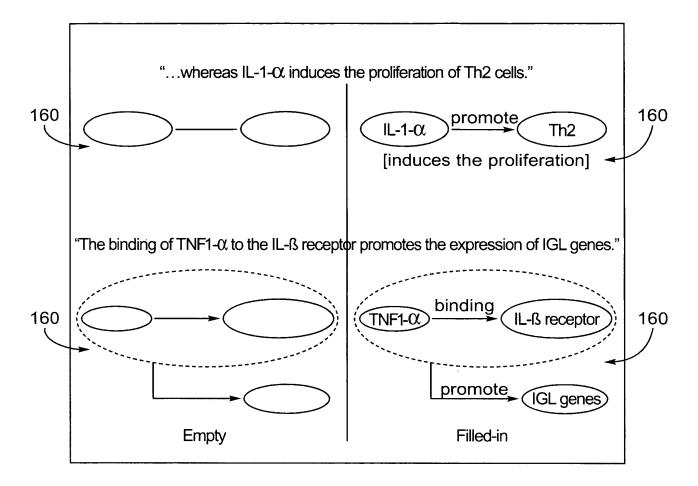


Fig. 6

Serial No. <u>Unassigned</u>
Entitled "System, Tools and Methods for Constructing Interactive Biological Diagrams"
Our Ref. No. 10030635-1

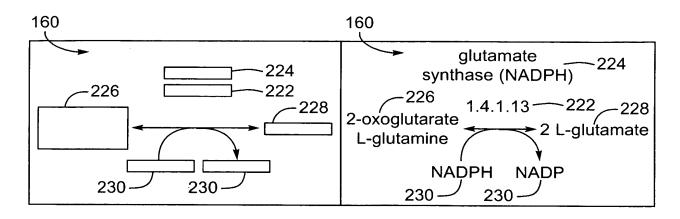
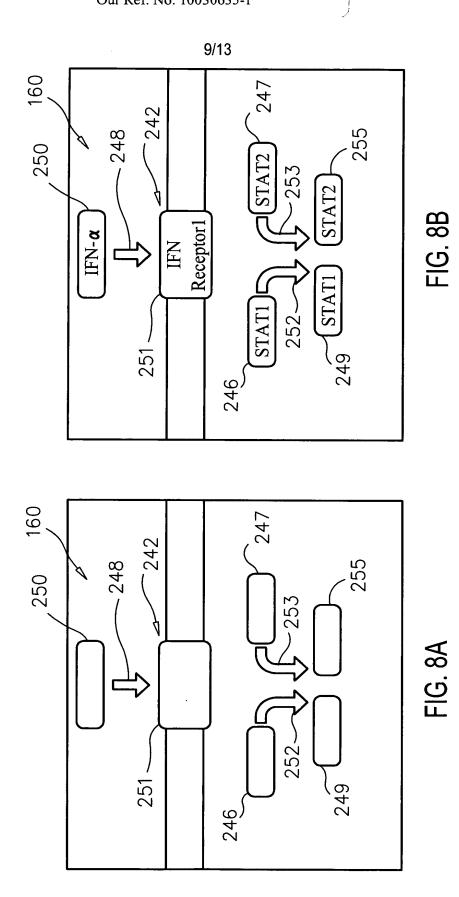


Fig. 7

Serial No. <u>Unassigned</u>
Entitled "System, Tools and Methods for Constructing Interactive Biological Diagrams"
Our Ref. No. 10030635-1



10/13 -200 File URL Hematopoietic progenitor kinase 1 (HPK1) is a member of the mitogen-activated protein kinase kinase kinase kinase (MAP4K) family and an upstream activator of the c-Jun N-terminal kinase (JNK) signaling cascade. HPK1 interacts, through its proline-rich domains, with growth factor receptor-bound 2 (Grb2), CT10-regulated kinase (Crk), and Crk-like (CrkL) adaptor proteind. We identified a novel HPK1interacting protein of 55 kDa (HIP-55), similar to the mouse SH3P7 protein, containing an N-terminal actin-binding domain and a C-terminal Src homology 3 domain. We found that HPK1 bound to HIP-55 both in vitro and in vivo. When co-transfected, HIP-55 increased HPK1 is kinase activity as well as JNK1 is kinase activity. 110 · **A V** 158 Palettes for entities, -152 interactions, stencils 150 154-Canvas for composing stencils Palettes for entities, 156interactions, stencils ☐ Interactions ☐ Entities **SMAP4K1:HPK1** activated: (MAP4K1, Jun, MAPK8) bound: (MAP4K1, Rsp, GRB2, MAGEE1, CRK, CRKL) MAPK8: JNK, JNK1 - • regulated: (MAP4K1, Rsp, GRB2, MAGEE1, ⇔ Rsp: receptor CRK, CRKL) binding: (MAP4K1, HIP-55, Dbnl, Act5C, SRC) bound: (MAP4K1, HIP-55) **⇔** CRK: Crk ● increased: (HIP-55, MAP4K1, MAPK8) **⇔** CRKL: Crkl activation: (MAP4K1, MAPK8, HIP-55) **⇔** HIP-55: HIP-55 blocked: (MAP4K1, MAPK8, HIP-55) - • binds: (HIP-55, MAP4K1, MAPK8) ⇔ SRC: Src 120 130 Analyze Text Reset DEBUG

Fig. 9

102

Serial No. Unassigned Entitled "System, Tools and Methods for Constructing Interactive Biological Diagrams" Our Ref. No. 10030635-1 11/13 **~200** File URL Hematopoietic progenitor kinase 1 (HPK1) is a member of the mitogen-activated protein kinase kinase kinase (MAP4K) family and an upstream activator of the c-Jun Nterminal kinase (JNK) signaling cascade. HPK1 interacts, through its proline-rich domains, with growth factor receptor-bound 2 (Grb2), CT10-regulated kinase (Crk), and Crk-like (CrkL) adaptor proteind. We identified a novel HPK1-interacting protein of 55 kDa (HIP-55), similar to the mouse SH3P7 protein, containing an N-terminal actin-binding domain and a C-terminal Src homology 3 domain. We found that HPK1 bound to HIP-55 both in vitro and in vivo. When co-transfected, HIP-55 increased HPK1 is kinase activity as well as JNK1's kinase activity. **▲**▼ -160 184 -160 -160 152 150 158 -182 185 -160 187--160 186 ☐ Entities Interactions · ♦ MAP4K1: HPK1 activated: (MAP4K1, Jun, MAPK8) - • bound: (MAP4K1, Rsp, GRB2, MAGEE1, 

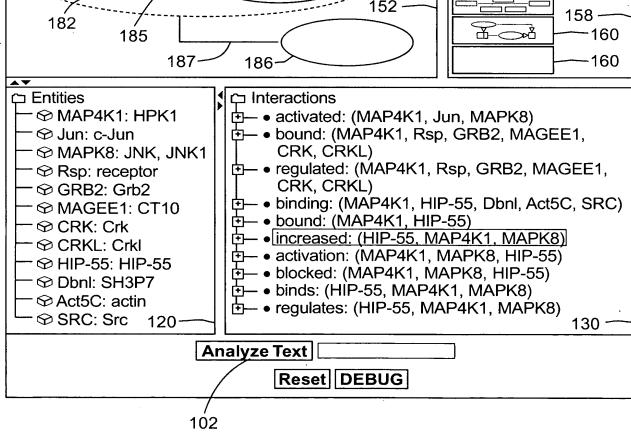


Fig. 10

"Serial No. <u>Unassigned</u>
Entitled "System, Tools and Methods for Constructing Interactive Biological Diagrams"
Our Ref. No. 10030635-1

12/13 -100 File **URL** Hematopoietic progenitor kinase 1 (HPK1) is a member of the mitogen-activated protein kinase kinase kinase (MAP4K) family and an upstream activator of the c-Jun Nterminal kinase (JNK) signaling cascade. HPK1 interacts, through its proline-rich domains, with growth factor receptor-bound 2 (Grb2), CT10-regulated kinase (Crk), and Crk-like (CrkL) adaptor proteind. We identified a novel HPK1-interacting protein of 55 kDa (HIP-55), similar to the mouse SH3P7 protein, containing an N-terminal actin-binding domain and a C-terminal Src homology 3 domain. We found that HPK1 bound to HIP-55 both in vitro and in vivo. When co-transfected, HIP-55 lincreased HPK1's kinase activity as well as JNK1's kinase activity. 110 **▲**▼  $\bigcirc\bigcirc$ 184 binding HIP-55 HPK1 182 promotes 185 JNK1 187 186 Entities Interactions activated: (MAP4K1, Jun, MAPK8) - • bound: (MAP4K1, Rsp, GRB2, MAGEE1, CRK, CRKL) 団— ● regulated: (MAP4K1, Rsp, GRB2, MAGEE1, ⇔ Rsp: receptor CRK, CRKL) ⇔ GRB2: Grb2 binding: (MAP4K1, HIP-55, Dbnl, Act5C, SRC) MAGEE1: CT10 • bound: (MAP4K1, HIP-55) ♥ CRK: Crk increased: (HIP-55, MAP4K1, MAPK8) **⇔** CRKL: CrkI activation: (MAP4K1, MAPK8, HIP-55) **⇔** HIP-55: HIP-55 blocked: (MAP4K1, MAPK8, HIP-55) - • binds: (HIP-55, MAP4K1, MAPK8) SRC: Src 120 Analyze Text Reset DEBUG

Fig. 11

Serial No. <u>Unassigned</u>
Entitled "System, Tools and Methods for Constructing Interactive Biological Diagrams"

Our Ref. No. 10030635-1

13/13

